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**To:** Microsoft ATR  
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**Subject:** comments on the Microsoft settlement

The breakup of the Bell Telephone monopoly spawned many new technologies and services which would never have happened otherwise. There is now a thriving industry of local and long-distance phone carriers, DSL services, etc. Similarly, a real end to Microsoft's monopoly on computer software would spur huge growth and competition in operating systems and application software. The global internet holds fantastic promise for new applications, new ways of connecting people, and incredible innovation. Building these new things and offering them at reasonable prices is not in Microsoft's interest when they have a monopoly, and is not possible for other companies. Break up the monopoly, and I believe we'll see enormous economic growth, as new companies spring up to compete.

To effectively allow competition, the settlement must enforce the publishing of standards. There are many standards we take for granted in everyday life without which whole industries would be impossible. Light bulbs all have the same type of socket. No one company has secret control over a socket standard, so no one company has a lock on selling the fixtures \*and\* the lights.

So Microsoft must be forced to expose their interfaces. Interfaces include APIs of course, but they importantly include document formats. A document saved in Microsoft Word \*must\* be openable (correctly) in a competing word processor program, and other programs must be able to correctly write files which MS Word reads. Sending and receiving documents is a fundamentally important communication, and if Microsoft is the only company which can sell software to read documents published by others, Microsoft's monopoly will continue unaffected, and new companies and new economic growth will not appear.

In essence, \*every\* interface between one piece of software and another must be made public. This should be true not only for Microsoft, but for every software company. Interfaces include:

- network protocols
- Application Programming Interfaces (APIs)
- document formats

and possibly others. There must be no "secret handshakes" exchanged by Microsoft software which keeps others from competing.

As a Ph.D. student in Robotics with Masters and Bachelors degrees in Computer Science and several years in the programming industry, I have

a good deal of experience with different software systems. It is my firm belief that Microsoft's software is as unreliable as it is and as expensive as it is because of Microsoft's monopoly. It is also my firm belief that other companies have been prevented from offering competitive software products because of Microsoft's monopoly. The court has found Microsoft guilty of maintaining a monopoly. The penalty given to Microsoft is a critical opportunity to enliven the whole nation's economy, but it must be done carefully, and include the publication of all interfaces.

Thank you,

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